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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,546	03/29/2004	Seiichi Mizukoshi	86825RLO	3435

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EXAMINER

SITTA, GRANT

ART UNIT PAPER NUMBER

2609

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No. 10/812,546	Applicant(s) MIZUKOSHI ET AL.	
	Examiner Grant D. Sitta	Art Unit 2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/29/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1, 2, 4, 5 and 6 are objected to because of the following informalities:

3. Claim 1, last line "estimation means" should be "estimation circuitry."

4. Claim 2, last line "current control means" should be "current control circuitry."

Applicant is advised to make correction in the rest of the claims. Appropriate correction is required.

5. Claim 4 is objected to because of the following informalities: Applicant is using "this coefficient" (line 4), where "said coefficient" or "the coefficient" is a better distinction. Appropriate correction is required. Also in claim 4, Applicant refers to

"estimated panel current" (line 2) when "the estimated panel current" or "said estimated panel current" is proper. Appropriate correction is required.

6. Claim 5 is objected to because of the following informalities: Applicant is missing a closing bracket in the formula in (line 3).

7. Claim 5 is also objected for lack of brackets. It is unclear the exact order of operations, whether the "a" should be subtracted first or multiplied first.

8. Claim 5, lines 3 and 6 "Imax" and "iMax" are they the same correction is required.

9. In claim 6, what does "R pixel", "G pixel", and "B pixel" stand for?

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. In regards to claim 3, "the estimated panel current becomes maximum panel current coincides with the maximum panel current." (line 4) The Examiner is uncertain how the "maximum panel current" coincides with "the maximum panel current."

13. In regards to claim 5, Applicant refers to "the time panel" (line 6). However, it is unclear what is meant by "the time panel."

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et. al (6, 078,302) hereinafter, Suzuki.

16. In regards to claim 1, Suzuki teaches:

A display setting circuitry (fig. 1(106)) for setting a relationship between image data and current values (fig.1(105)) for current flowing in display elements in response to an input adjustment signal, to set contrast or brightness (col. 2, lines 12-20);

Estimation circuitry for estimating panel current flowing in all pixels when carrying out display for the display panel based on the image data (Fig. 1 (104)).

Current control circuitry (fig. 1(105)) for controlling actual panel current by correcting the set contrast or brightness based on the panel current estimated by the estimation means (Col. 2, lines 2-20).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cok et al (US 7,064,733) hereinafter Cok.

20. In regards to claim 1, A display setting circuitry (fig. 9(120-126)) for setting a relationship between image data and current (col. 7, lines 10-35) values for current flowing in display elements in response to an input adjustment signal, to set contrast or brightness (col. 7, lines 10-35);

Estimation circuitry (Fig. 1 (20)) for estimating panel current flowing in all pixels when carrying out display for the display panel based on the image data (Fig. 1 col. 5, lines 20-40, It is inherent that the "display" (line 24) include all pixels.)

Current control circuitry (Fig. 1(16)) for controlling actual panel current by correcting the set contrast or brightness based on the panel current estimated by the estimation means (Fig. 9 col. 7, lines 38-39, "control circuit").

21. In regards to claim 2, when the panel current estimated by the estimation means does not exceed a specified set value, correction of contrast or brightness by the current control means is not effected (Fig. 9 col. 7 lines 25-35).

22. In regards to claim 3, if the panel current estimated by the control means exceeds the specified set value, the current control means corrects the contrast or brightness so that actual panel current at the time the estimated panel current becomes maximum panel current coincides with the maximum panel current coincides with the maximum panel current (Fig. 9 col. 7 lines 25-35).

23. In regards to claim 4, the current control means stores a coefficient defining a relationship between estimated panel current required in correction of contrast or brightness and correction of contrast or brightness, and corrects the contrast or brightness using this coefficient (Fig. 9 col. 7 lines 25-35, "F").

Examiner notes, Cok does not specifically disclose where a current control means stores a coefficient, However, one skilled in the art would recognize that the look-up table (LUT) value would obviously store a coefficient defining a relationship between correction of brightness or contrast.

24. In regards to claim 7, wherein the light emitting element is an organic EL light emitting elements (col. 8, lines 5-15, "OLEDs").

25. In regards to claim 8, wherein the estimation means estimates total current based on the sum or average of image data from a single image frame or a plurality of image frames (col. 7, lines 25-35, " T_i ").

Examiner notes that T_i is in relationship to the "display" (line 26) and thus could encompass a single frame or a plurality of frames.

Allowable Subject Matter

26. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

27. The cited references have failed to teach applicant's claimed inventions of claim 5

"the current control means controls contrast based on the following equation:

$C' = C - (C + B / (k \cdot L_{w0}) - a \cdot (I_{cal} - I_{calx}) / (I_{max} - I_{calx}))$,

where C is contrast setting value, B is brightness setting value,

L_{w0} is maximum luminance at initial setting time ($C=1$, $B=0$), a is luminance at the time panel current becomes I_{max} , when displaying a totally white surface, divided by L_{w0} , I_{cal} is panel current when subjecting original image data values to linear conversion, I_{max} is maximum current flowing in the panel, I_{calx} is the I_{cal} value (can be arbitrarily set) for the point at which maximum luminance begins to lower, and k is gamma correction input data divided by luminance."

28. Claim 6:

$I = R_{frame} / E_r + G_{frame} / E_g + B_{frame} / E_b$,

where, R_{frame} is the sum total of R pixel data for one frame, G_{frame} is the sum total of G pixel data for one frame, B_{frame} is the sum total of B pixel data for one frame, E_r is R luminance divided by current flowing in one R pixel, E_g is G luminance divided by current flowing in one G pixel, and E_b is B luminance divided by current flowing in one B pixel."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure Eaton (US 5,157,525), Palalau (US 6,271,813), Shannon (US 6,542,138), Webb (US 5,216,504), Shin (US 7,184,065), Sakumoto (US 6,897,837), Hsieh (2005/0179639).

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Grant D. Sitta whose telephone number is 571-270-1542. The examiner can normally be reached M-Th 7:30-5:00.

If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-270-1550. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to USPTO Customer Service Representative or access to the automated information system whose telephone number is 1-800-786-9119 or 571-272-1000.

Grant D. Sitta

March 15, 2007


AMARE MENGISTU
SUPERVISORY PATENT EXAMINER